

12/09/98  
JC498 U.S. PTO

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LIMBACH & LIMBACH L.L.P.  
2001 Ferry Building, San Francisco, CA 94111  
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Address to:  
Box Patent Application  
Assistant Commissioner for Patents  
Washington, D.C. 20231

Attorney's Docket No. NET-P1600  
[98-1100]  
First Named Inventor David Hyatt

UTILITY PATENT APPLICATION TRANSMITTAL  
( under 37 CFR 1.53(b) )

SIR:

Transmitted herewith for filing is the patent application entitled:  
**SMART BROWSING PROVIDERS**

JC518 U.S. PTO  
09/208805  
12/09/98

CERTIFICATION UNDER 37 CFR § 1.10

I hereby certify that this New Application and the documents referred to as enclosed herein are being deposited with the United States Postal Service on this date December 9, 1998, in an envelope bearing "Express Mail Post Office To Addressee" Mailing Label Number EL186214119US addressed to: Box Patent Application, Assistant Commissioner for Patents, Washington, D.C. 20231.

Cassandra Lee

*Cassandra Lee*

(Name of person mailing paper)

(Signature)

Enclosed are:

1. ☒ Transmittal Form (two copies required)
2. The papers required for filing date under CFR § 1.53(b):
  - i. 13 Pages of specification (including claims and abstract);
  - ii. 3 Sheets of drawings.  
☐ formal ☒ informal
3. Declaration or oath
  - a. ☒ Newly executed (original or copy)
4. ☐ Microfiche Computer Program (Appendix, see 37 CFR 1.96)
5. ☐ Nucleotide and/or Amino Acid Sequence Submission (if applicable, all necessary)
  - i. ☐ Computer Readable Copy
  - ii. ☐ Paper Copy (identical to computer copy)
  - iii. ☐ Pursuant to 37 C.F.R. §1.821(g), the undersigned has reviewed the paper copy and the computer readable copy of the Sequence Listing and determined the information recorded in computer readable form is identical to the written Sequence Listing.

ACCOMPANYING APPLICATION PARTS

6. ☒ An assignment of the invention to Netscape Communications Corporation is attached (including Form PTO-1595).
  - i. ☒ 37 CFR 3.73(b) Statement (when there is an assignee)
7. ☐ Power of Attorney
8. ☐ An Information Disclosure Statement (IDS) is enclosed, including a PTO-1449 and copies of ☐ references.
9. ☐ Preliminary Amendment.
10. ☒ Return Receipt Postcard (MPEP 503 -- should be specifically itemized)
11. ☒ Other (Appendices A,B,C)

12. FOREIGN PRIORITY

☐ Priority of application no. \_ filed on \_ in \_ is claimed under 35 USC 119.

The certified copy of the priority application:

- ☐ is filed herewith; or
- ☐ has been filed in prior application no. \_ filed on \_, or
- ☐ will be provided.

☐ English Translation Document (if applicable)

13. FEE CALCULATION

a. ☐ Amendment changing number of claims or deleting multiple dependencies is enclosed.

CLAIMS AS FILED

	Number Filed	Number Extra	Rate	Basic Fee (\$760)
Total Claims	11 - 20	* 0	x \$18.00	0
Independent Claims	1 - 3	* 0	x \$78.00	0
Multiple dependent claim(s), if any			\$260.00	0

\*If less than zero, enter "0".

Filing Fee Calculation . . . . . \$760.00

50% Filing Fee Reduction (if applicable) . . . . . n/a

14. Small Entity Status

- a. ☐ A small entity statement is enclosed.
- b. ☐ A small entity statement was filed in the prior nonprovisional application and such status is still proper and desired.
- c. ☐ is no longer claimed.

15. Other Fees

☒ Recording Assignment [\$40.00] . . . . . \$40.00  
☐ Other fees  
Specify \_\_\_\_\_ \$

Total Fees Enclosed . . . . . \$800.00

16. Payment of Fees

☐ Check(s) in the amount of \$ \_ enclosed.  
☒ Charge Assignee's Deposit Account No. 50-0249 in the amount of \$800.00.  
A duplicate of this transmittal is attached.

17. All correspondence regarding this application should be forwarded to the undersigned attorney:

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Limbach & Limbach L.L.P.  
2001 Ferry Building  
San Francisco, CA 94111  
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18. Authorization to Charge Additional Fees

☒ The Commissioner is hereby authorized to charge any additional fees (or credit any overpayment) associated with this communication and which may be required under 37 CFR § 1.16 or § 1.17 to Assignee's Deposit Account No. 50-0249. A duplicate of this transmittal is attached.

LIMBACH & LIMBACH L.L.P.



December 9, 1998  
(Date)

Attorney Docket No. NET-P1600  
[98-1100]

By: \_\_\_\_\_  
Alan S. Hodes  
Registration No. 38,185  
Attorney(s) or Agent(s) of Record

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
APPLICATION FOR PATENT

Inventors: David Hyatt  
Ramanathan Guha

Title: Smart Browsing Providers

Atty Docket: NET-P1600 [98-1100]

**Technical Field**

5 The present invention relates to providing "related information" to users as they browse the world wide web and, in particular, to giving such users "related information" from a variety of different sources, where a designation of the particular sources is dynamically reconfigurable.

**Background**

10 The internet (also known as the "world wide web", or simply "the web") is a vast global computer network that has lately become exceedingly popular. A typical user of the internet accesses "web pages" via a browser program executing on that user's computer -- a "client computer" -- by typing the address of the web page into a location area of the browser's user interface. Web page addresses are in the form of universal resource locators, or URL's. For example, the web page of Netscape Communications Corporation may be accessed by the user typing in the URL  
15 "http://home.netscape.com" into the location area of the browser's user interface. A major drawback of the internet is that untrustworthy information is sometimes (and very easily) published via the internet, and users have no quick and reliable way to distinguish trustworthy information from untrustworthy information.

20 One way to determine the reliability of information on one site of the internet is to view other "related" sites to see what these other sites say about the same subject matter. Alexa Internet of San Francisco, California, provides a software product that integrates with a browser to present such

related information to the user. The Alexa software product determines which sites to list as related information by performing link and text analysis of a large number of web pages to determine similarities between a page being viewed and other pages; by studying patterns of web use; and from user suggestions. A significant disadvantage of the Alexa approach is that, once a browser is initially configured to interact with the Alexa service, the user only enjoys one point of view, that determined by Alexa Internet, as to what is related information.

What is desired is a browser that allows a user to easily enjoy multiple competing points of view as to what is "related information". Furthermore, it is desired that whether the browser presents one or multiple points of view, that the user can easily choose which point(s) of view are presented.

### Summary

A web browser program is for execution by a client computer connectable to a plurality of server computers via a computer network. In general, the web browser program automatically reconfigures chrome of a user interface to the web browser program to provide a user access to any one of a plurality of groups of related information.

Content display program means is configured to receive content data from a current server computer that is one of the plurality of server computers. The content display program means causes a display, on a content portion of the a display of the client computer, that corresponds to the content data.

Chrome display program means is configured to cause a display of chrome, on a chrome portion of the client computer display that corresponds to chrome specifiers in a chrome configuration database.

Current site communication program means is configured to provide an indication of the current server computer to a plurality of "related

information" servers indicated by a "related information" servers indication. This indication may be, for example, a "universal resource locator" or may even be keywords used by the browser program to index to a site to display.

Chrome configuration processing program means is configured to receive, from the plurality of "related information" servers, "related information" designators. These "related information" designators are provided to the client computer based on the indication of the current server computer. The chrome configuration processing program means provides the "related information" designators as ones of the chrome specifiers in the chrome configuration database. As a result, the chrome display program means displays the "related site" designators as part of the chrome.

"Related information" servers indication receiving program means is configured to receive the "related information" servers indication from at least one of the plurality of server computers such that the "related information" servers indication is dynamically reconfigurable.

By providing "related information" from multiple sites, multiple competing points of view can be provided to the user. Furthermore, by making the definition of the sites that provide the "related information" dynamically reconfigurable, the reliability of the "related information" provided is further enhanced.

### **Brief Description of Figures**

Fig. 1 illustrates, in a very basic form, the topology of a computer network such as the internet.

Fig. 2 illustrates a browser display, including a content portion and a chrome portion.

Fig. 3 illustrates, in block form, a browser program configured to cause the display of the content portion and the chrome portion, and for handling a user interface to the chrome portion. Fig. 3 further illustrates how the browser is configured to display, as part of the chrome portion of the

display, "related information" that is related to content currently being displayed in the content portion of the display, and how an indication of the servers providing the "related information" is dynamically configurable.

### Detailed Description

5 In accordance with an embodiment of the present invention, a browser program is configured to execute on a client computer. Referring to Fig. 1, the client computer 104 is connected to a network 102 (e.g., the internet) and is configured to receive data from a server computer 106 that is also connected to the network 102. Reference is now made to Figs. 2 and 3 in addition to Fig. 1. In operation, the browser program 300 includes a content display program 302 that operates on HTML (hypertext markup language) data received from the server computer 106 via the network 102 to cause content to be displayed on a content portion 202 of a browser window 200 on the display of the client computer 104.

15 In addition, the browser program 300 also includes a chrome display and action program 304 that causes chrome to be displayed on a chrome portion 204 of the display of the client computer 104. The chrome display and action program 304 also processes actions based on user input to the chrome portion 204 of the display of the client computer 104. Both the chrome display and chrome action processing is responsive to the contents of a chrome configuration database 306.

20 Specifically, the chrome configuration database 306 includes chrome specification records (designated in Fig. 3 by the reference numeral 308) containing chrome specifiers that specify both the appearance of each portion of the chrome and the behavior associated with activation of that portion of the chrome. Activation may occur in one of a number of ways, such as "clicking" on the portion, pulling down a menu from the portion (where the appearance and behavior of the menu pulled down is also in the chrome specification records), or even moving a cursor across the portion. In one

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embodiment, the behavior is specified as a JavaScript file that, when executed, performs the behavior.

The chrome specification information may originate either from the server computer 106, or may be based on user actions. In one embodiment, chrome specification information that originates from the server computer 106 is in the form of Resource Description Framework (RDF) language. RDF is a schema being considered, but not yet adopted, by the World Wide Web Consortium (W3C) to model web resources and their interrelationships. At the time of filing this patent application, RDF is only defined in "working draft" form. A copy of the latest working draft, dated August 14, 1998, is available via the world wide web at <http://www.w3.org/TR1998/WD-rdf-schema.19980814>, and is hereby incorporated by reference in its entirety. The newest version is always available at <http://www.w3.org/TR/WD-rdf-schema>. If the chrome specification information originates from the server computer 106, then it is processed by a chrome configuration process 310 and the records 308 of the chrome configuration database 306 are modified accordingly. By contrast, if the chrome specification information originates from user actions, then it is processed by a user-defined chrome process 312. User actions to specify chrome, at least in some limited fashion, is known in the art. For example, the Communicator 4.0 browser of Netscape Communications Corporation allows for manipulating a tree structure of bookmarks, by, for example, dragging a link into a personal toolbar folder to cause the browser to display the links on a personal toolbar portion of the browser's chrome. See Official Netscape Communication 4 Professional Edition Book, by Phil James and Tara Calishain (Ventana Communications Group 1997). By contrast to Netscape Communicator 4.0, however, in the described embodiment, user actions would be manipulating a representation of the chrome specification records 308 in the chrome configuration database 306. Either or both of the processes 310, 312 may be employed to modify the records 308 of the chrome configuration database 306.

The operation of the browser program 300 is now discussed in greater detail relative to the chrome configuration. In one embodiment, the browser program 300 is configured such that, upon installation, connection is automatically made to a default "chrome provider" server computer that is one of the server computers 106. For example, if the browser program 300 is one provided by Netscape Communications Corporation, then connection would be automatically made to a "chrome provider" web server controlled by Netscape Communications Corporation. In one embodiment, the "chrome provider" web site (or server -- these terms are used interchangeably) attains knowledge of the user's demographics (e.g., by asking or from identification information available to it either from registration or on the client computer 104) and provides a particular chrome specification that corresponds to those demographics. For example, a particular chrome specification may be provided that corresponds to a language that the user understands. As another example, the demographic may be determined from information stored on the server computer 106 corresponding to the user, such as a record of buying behavior of a user at an online shopping site.

In addition, other content providers may take advantage of the chrome configuration feature of the browser program 300 such that, when a client computer 104 executing the browser program 300 connects to the server computer 106 providing that content, the server 106 provides a chrome specification that corresponds to that content. For example, a stock information web site may be configured such that its server 106 provides a particular chrome specification to a client computer 104 corresponding to stock information. As one specific illustrative example, the server computer 106 may provide chrome specification that, when processed and loaded into a record 308 of the chrome configuration database 306, results in a "\$"-shaped button being generated in the chrome portion 204 of the browser display window 200. As discussed above, the chrome specification for the "\$"-shaped button received from the server 106 may also have associated with it



particular behavior that would result when a user activates the "\$"-shaped button.

In a further embodiment, the chrome provider is a "related information" provider. In accordance with this further embodiment, a "related information" server indication database 307 is provided (either at the client computer 104 as shown in Fig. 3 or at one of the server computers 106). For content displayed on the content portion 202 of the browser window 200, the browser (see block 309 in Fig. 3) provides an indication of that content to the "related information" servers indicated in the "related information" database 307. In response to the content indication provided by the browser program 300, software executing on the "related information" servers provides "related information" back to the browser 300 for the chrome configuration process 310 to store into the chrome configuration database 306 as chrome specifiers. As a result of the chrome configuration database 306 including the "related information" as chrome specifiers, the chrome display and action program 304 causes the "related information" to be displayed as a part of the chrome portion 204.

One example of the "content indication" includes the URL of the site for which content is being displayed in the content portion 202. Another example of the "content indication" includes keywords entered by a user to a "smart keywords" feature of the browser 300, where the "smart keywords" feature is utilized by the browser to obtain a URL. Examples of the "related information" include, but are not limited to, reviews of the web site, other web sites (i.e., links thereto) that have content on related topics, reviews of the web site, or other types of information as provided, for example, by the Alexa Internet product discussed above. Significantly, by providing "related information" from multiple sites, multiple competing points of view can be provided to the user.

The send module 309 may also provide an indication to the "related information" servers of a demographic of the user. This demographic

indication may be determined, for example, from a cookie file on the client computer 104 or from identity preference information defined by the user and stored on the client computer, e.g. during installation and setup of the browser program 100 on the client computer 104. The "related information" server computer 106 may then use the demographic information to provide "related information" that is focused to that particular user. In some cases, the demographic information sent by the send module 309 may consist only of identity information, and the "related information" server includes functionality to match the identify information to demographic information accessible by the server computer 106. For example, the server computer 106 may be a web retail site from which the user has previously made purchases of which the web retail site has a record. In fact, the web retail site (or other sites) may provide to the client computer 104 (specifically, the "related information" server database 307) an indication of itself as a "related information" server in a manner similar to that discussed above with respect to chrome configuration specifiers.

Furthermore, in preferred embodiments, the "related information" server indication database is dynamically reconfigurable in order to further enhance the reliability of the points of view provided. (This is so whether "related information" is being received from just one, or from more than one, "related information" server.) That is, in a manner similar to the manner in which the chrome is dynamically reconfigured, the "related information" server indications are also dynamically reconfigurable. For example, as discussed above relative to chrome specifiers, the "related information" server indications may be provided to the "related information" server indication database by downloading an RDF file from a server computer (which may or may not be one of the "related information" servers) 106, wherein the chrome configuration program module 310 (or another program module provided expressly for this purpose) processes the downloaded RDF file to populate the "related information" server indication database 307.

It is intended that the following claims define the scope of the invention and that methods and apparatus within the scope of these claims and their equivalents be covered thereby.

5 Attached hereto as Appendix A is an engineering specification entitled "Configurable Chrome (Cthulhu)" which is to be considered an integral part of this specification.

Attached hereto as Appendix B is portions (sixty one modules) of browser source code to implement modifiable chrome.

10 Attached hereto as Appendix C is source code to implement the related information provider feature.

Approved for release by NSA on 08-05-2014 pursuant to E.O. 13526

**What is claimed is:**

1. A web browser program, for execution by a client computer connectable to a plurality of server computers via a computer network, to automatically reconfigure chrome of a user interface to the web browser program to provide a user access to any one of a plurality of groups of related information, the web browser program comprising:

content display program means configured to receive content data from a current web site of a current server computer, that is one of the plurality of server computers, and to cause a display, on a content portion of the a display of the client computer, that corresponds to the content data;

chrome display program means configured to cause a display of chrome on a chrome portion of the client computer display that corresponds to chrome specifiers in a chrome configuration database;

current site communication program means configured to provide an indication of the current server computer to a plurality of "related information" servers indicated by a "related information" servers indication;

chrome configuration processing program means configured to receive, from the plurality of "related site" servers, "related information" designators provided to the client computer based on the indication of the current sever computer, and to provide the "related information" designators as ones of the chrome specifiers in the chrome configuration database such that the chrome display program means displays the "related site" designators as part of the chrome; and

"related information" servers indication receiving program means configured to receive the "related information" servers indication from at least one of the plurality of server computers such that the "related information" servers indication is dynamically reconfigurable.

2. A web browser program as in claim 1, wherein:

the "related information" servers receiving program means is

configured to received the "related information" servers indication in an RDF format.

3. A web browser program as in claim 1, wherein:

the "related information" designators received from the "related  
5 information" servers specifies the appearance of at least one sub-portion of  
the chrome portion of the client computer display and also specifies a  
behavior associated with a user activation of that sub-portion.

4. A web browser program as in claim 3, wherein:

at least a portion of the "related information" designators received  
10 from the servers specifies the behavior as a JavaScript method.

5. A web browser program as in claim 1, wherein:

the one of the servers from which the "related information" servers  
indication is received by the "related information" servers indication receiving  
program means is a trusted server to which the web browser program causes  
15 the client computer to connect.

6. A web browser program as in claim 5, wherein:

the trusted server is a default server to which the web browser  
program causes the client computer to connect upon a first execution of the  
web browser after a predetermined event.

7. A web browser program as in claim 6, wherein the predetermined  
20 event is installation of the web browser program on the client computer.

8. A web browser program as in claim 1, wherein:

the web browser program causes the client computer to provide to the  
"related information" servers an indication of a demographic of the user, and

the "related information" provided by the "related information" servers corresponds to that demographic.

9. A web browser program as in claim 8, wherein the demographic is an indication of an identity of the user.

5 10. A web browser program as in claim 1, wherein the "related information" provided by the "related information" servers includes at least one of links to web sites having content whose subject matter is related to the subject matter of the current web site and a review of the current web site.

11. A web browser program as in claim 1, and further including:

10 confirmation program means configured to confirm whether the user has a desire to store a "related information" server indication in a "related information" server indication database and to control that storage based on the confirmation,

15 wherein the servers to which the current server computer indication is provided is limited to servers whose indication is in the "related information" server indication database.

**Abstract**

A web browser program is for execution by a client computer connectable to a plurality of server computers via a computer network. The web browser program automatically reconfigures chrome of a user interface to the web browser program to provide a user access to any one of a plurality of groups of related information. A content display program module is configured to receive content data from a current server computer that is one of the plurality of server computers. The content display program module causes a display, on a content portion of the a display of the client computer, that corresponds to the content data. A chrome display program module is configured to cause a display of chrome on a chrome portion of the client computer display that corresponds to chrome specifiers in a chrome configuration database. A current site communication program module is configured to provide an indication of the current server computer to a plurality of "related information" servers indicated by a "related information" servers indication. This indication may be, for example, a "universal resource locator" or may even be keywords that indicate used by the browser program to index to a site to display. A chrome configuration processing program module is configured to receive, from the plurality of "related site" servers, "related information" designators. These "related information" designators are provided to the client computer based on the indication of the current sever computer. The chrome configuration processing program module provides the "related information" designators as ones of the chrome specifiers in the chrome configuration database. As a result, the chrome display program module displays the "related site" designators as part of the chrome. A "related information" servers indication receiving program module is configured to receive the "related information" servers indication from at least one of the plurality of server computers such that the "related information" servers indication is dynamically reconfigurable.

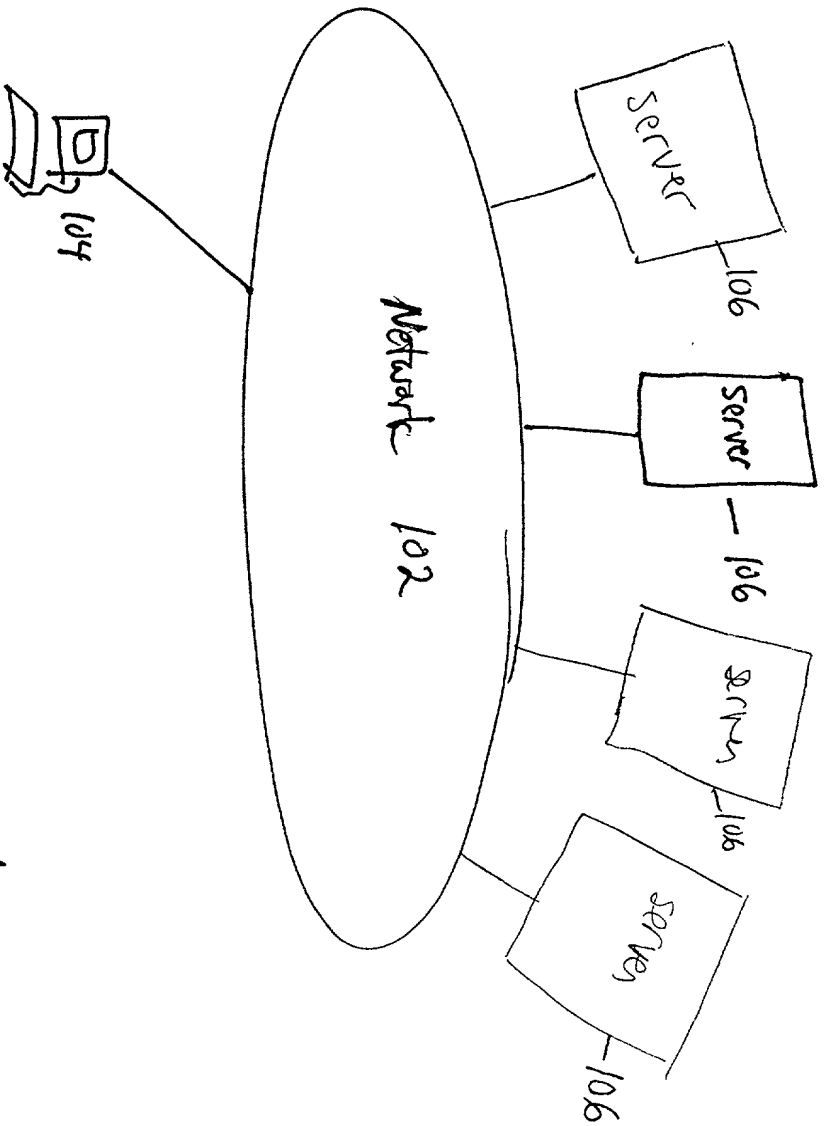
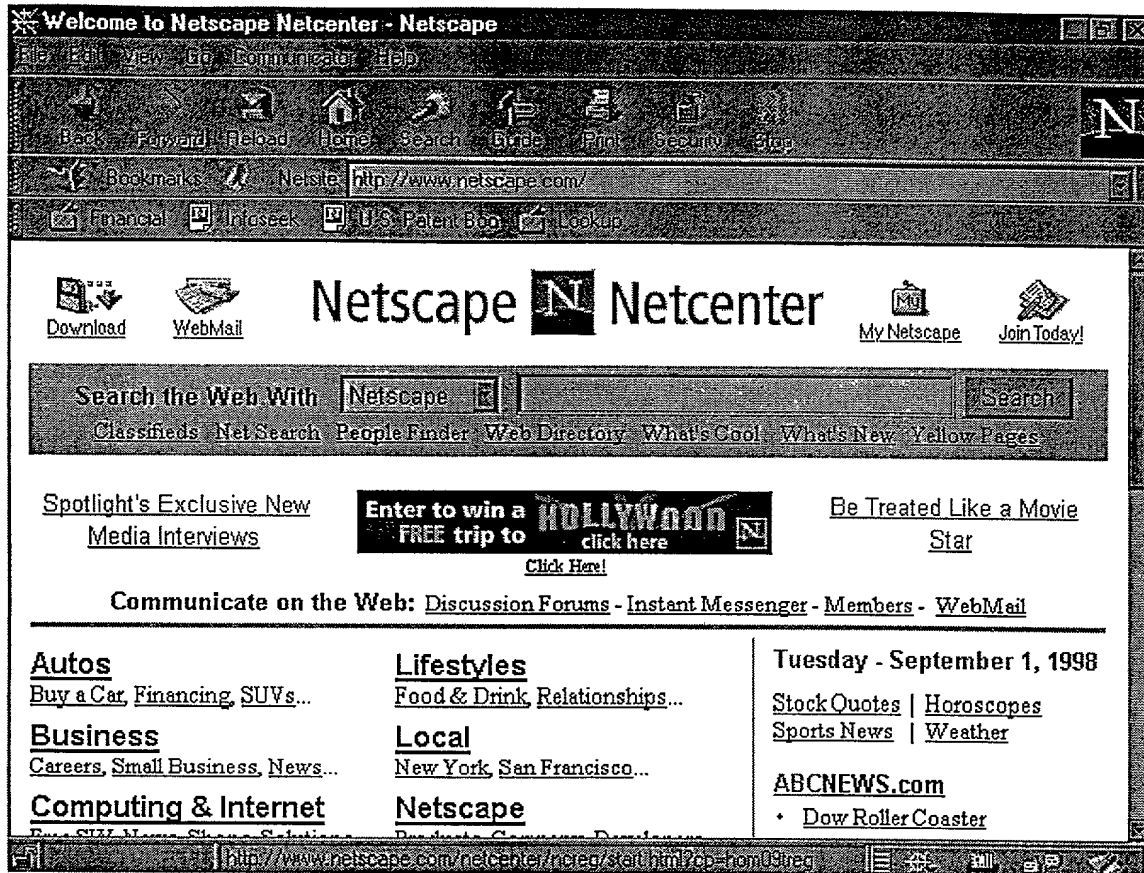


FIG. 1





204

202

204

200

FIG. 2

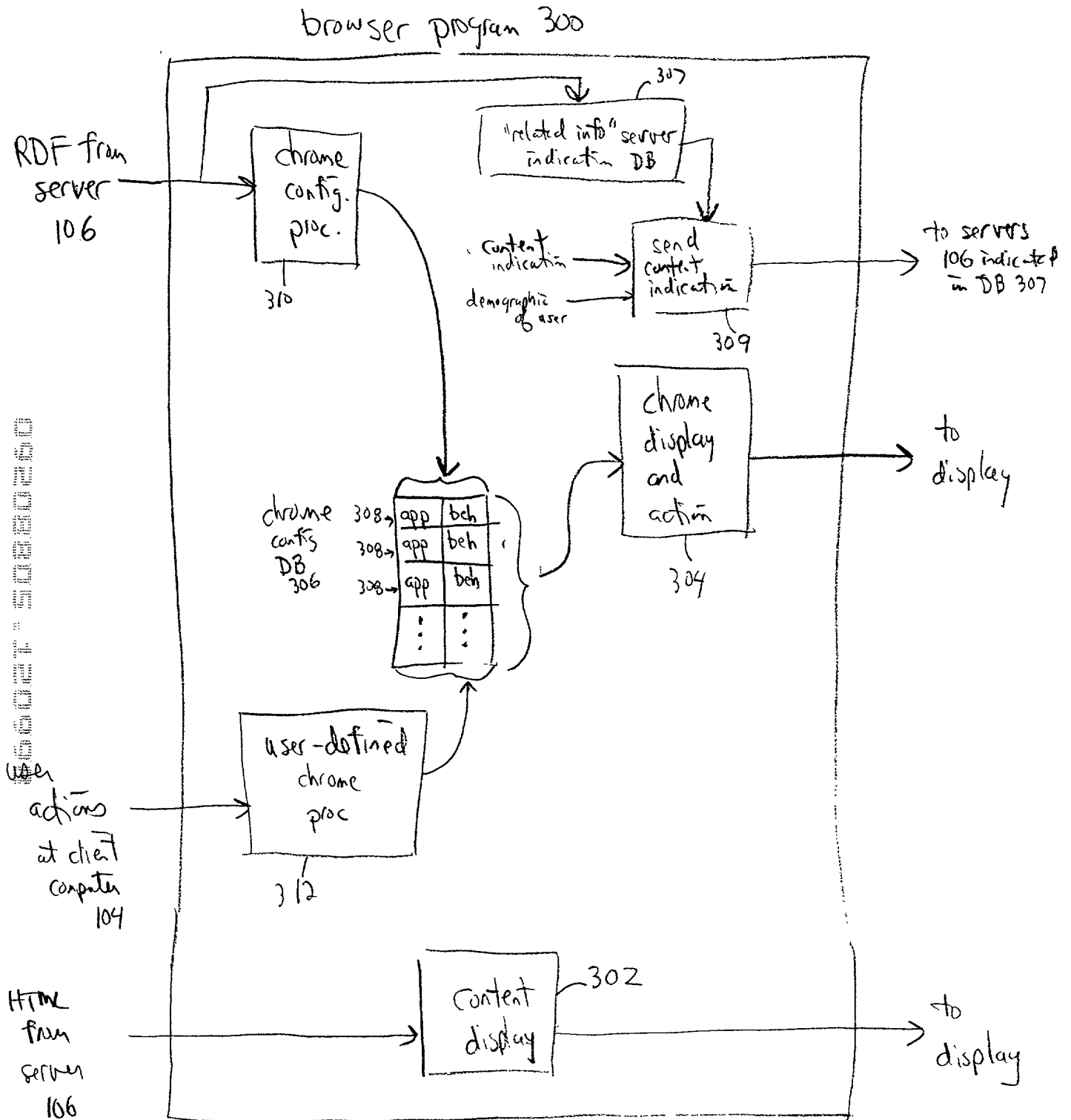


FIG. 3

**DECLARATION FOR PATENT APPLICATION**

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name,

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled

**SMART BROWSING PROVIDERS**

the specification of which (check one) ☒ is attached hereto or \_\_\_ was filed on \_\_\_\_\_ as Application No. \_\_\_\_\_ and was amended on \_\_\_\_\_ (if applicable).

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose all information which is material to patentability as defined in 37 CFR § 1.56.

I hereby claim foreign priority benefits under 35 U.S.C. § 119(a)-(d) or § 365(b) of any foreign application(s) for patent or inventor's certificate, or § 365(a) of any PCT International application which designated at least one country other than the United States, listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

Prior Foreign Application(s)			Priority Claimed	
			Yes	No
Number	Country	Day/Month/Year Filed		
Number	Country	Day/Month/Year Filed		

I hereby claim the benefit under 35 U.S.C. § 119(e) of any United States provisional application(s) below.

Application Number	Filing Date

Application Number	Filing Date

I hereby claim the benefit under 35 U.S.C. § 120 of any United States application(s), or § 365(c) of any PCT International application designating the United States, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of 35 U.S.C. § 112, I acknowledge the duty to disclose all information which is material to patentability as defined in 37 CFR § 1.56 which became available between the filing date of the prior application and the national or PCT international filing date of this application:

Application Number	Filing Date	Status: Patented, Pending, Abandoned

Application Number	Filing Date	Status: Patented, Pending, Abandoned

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment or both, under 18 U.S.C. § 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Full name of sole or first inventor David Hyatt

Inventor's signature

David Hyatt

12/04/98

Date

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Full name of second joint inventor, if any, Ramanathan Guha

Inventor's signature

R. Vaidhyanathan Guha

Dec 8 1998

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